

Reply to Office Action of October 6, 2005May 4, 2006

AMENDMENTS TO THE CLAIMS

1. (currently amended) A composition which is an aqueous, energy curable, homogenous, solution comprising the neutralization product of

- (a) an ethylenically unsaturated acidic resin containing carboxylic acid, acrylic functional groups, methacrylic functional groups or a combination thereof, and
- (b) an ethylenically unsaturated amine; in

(c) more than 10% but less than 30% by weight of water;
where upon curing with an actinic radiation source, a stereo-crosslinked ionomer forms offering the composition an increased cross-linked density.

2. (Previously presented) The composition of claim 1 wherein the ethylenically unsaturated resin is a styrene/maleic anhydride copolymer, partially esterified with a hydroxy alkyl acrylate or methacrylate functional group.

3. (Currently amended) A composition which is an aqueous, energy curable, homogenous, solution comprising the neutralization product of

- (a) a styrene/maleic anhydride copolymer, partially esterified with a hydroxy alkyl acrylate or methacrylate functional group, The composition of claim 2 wherein the partially esterified styrene/maleic anhydride copolymer is further esterified with an alcohol group, and

(b) an ethylenically unsaturated amine; in

- (c) more than 10% but less than 30% by weight of water;
where upon curing with an actinic radiation source, a stereo-crosslinked ionomer forms
offering the composition an increased cross-linked density.

4. (cancelled)

5. (currently amended) The composition of claim [[4]] 1 wherein the neutralizing agent is an ethylenically unsaturated tertiary amine.

6. (original) The composition according to claim 1, wherein the ethylenically unsaturated resin has an acid number of at least 80 and a weight average molecular weight between 1,000 and 50,000.

7. (original) The composition according to claim 6, wherein the ethylenically unsaturated resin has an acid number of at least 80 and a weight average molecular weight between 1,000 and 25,000.

8. (original) The composition according to claim 7, wherein the ethylenically unsaturated resin has an acid number of at least 80 and a weight average molecular weight between 1,000 and 10,000.

9. (cancelled)

10. (currently amended) A composition which is an aqueous, energy curable, homogenous, solution comprising: the neutralization product of

(a) an ethylenically unsaturated styrene/maleic anhydride copolymer acidic resin, partially esterified with a hydroxy alkyl acrylate, further esterified by an alcohol, containing carboxylic acidic functional groups; and

(b) ~~an~~ ammonia, ethylenically unsaturated tertiary amine, or a combination thereof; in
(c) more than 10% but less than 30% by weight of water,

where upon curing with an actinic radiation source, a stereo-crosslinked ionomer forms offering the composition an increased cross-linked density.

11. (original) A method for preparing an energy curable coating comprising employing the composition of claim 1.

12. (cancelled)

13. (original) A method for preparing an energy curable coating comprising employing the composition of claim 10.

14. (original) An energy curable coating comprising the composition of claim 1.

15. (cancelled).

16. (original) An energy curable coating comprising the composition of claim 10.

17. (Currently amended) A composition which is an aqueous, energy curable, homogenous, solution comprising: the neutralization product of

(a) an ethylenically unsaturated styrene/maleic anhydride copolymer acidic resin, partially esterified with a hydroxy alkyl acrylate, further esterified by an alcohol, containing carboxylic acidic functional groups; and

(b) an ammonia, ethylenically unsaturated tertiary amine, or a combination thereof; in
(c) more than 10% but less than 30% by weight of water,

where upon curing with an actinic radiation source, a stereo-crosslinked ionomer forms offering the composition an increased cross-linked density and The composition of

~~claim 10~~ wherein the amine is the reaction product of a primary or secondary amine and two acrylic esters, each of which contain at least two (meth)acrylic groups.

18. (Previously presented) The composition according to claim 17, wherein the ethylenically unsaturated resin has an acid number of at least 80 and a weight average molecular weight between 1,000 and 50,000.

19. (Previously presented) An energy curable coating comprising the composition of claim 18.

20. (Previously presented) The composition of claim 10 wherein the amine is the reaction product of a primary or secondary amine and two acrylic esters, each of which contain at least two (meth)acrylic groups.

21. (Previously presented) The composition according to claim 20, wherein the ethylenically unsaturated resin has an acid number of at least 80 and a weight average molecular weight between 1,000 and 50,000.

22. (Previously presented) The composition of claim 21 wherein the ethylenically unsaturated resin is a styrene/maleic anhydride copolymer, partially esterified with a hydroxy alkyl acrylate or methacrylate functional group.